

**Coaxial Cable Connector Interface - Square Outer
Conductor**

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August 2021**

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SAE/USCAR-19 REVISION 2

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COAXIAL CABLE CONNECTOR INTERFACE - SQUARE OUTER CONDUCTOR

RATIONALE

A technical review in June 2014 determined that no future updates will be made to this design. It has been used successfully, but not in high-enough volume to justify ongoing support.

STABILIZED NOTICE

This document has been declared "Stabilized" by USCAR and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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1. SCOPE

This radio frequency (RF) connector interface specification is suited for unsealed automobile applications up to 2 GHz. Dimensional requirements are specified in this document to ensure interchangeability. This RF connector interface specification is intended for in-line, board mount, device mount, straight or angled applications. Performance requirements are specified in SAE/USCAR-2, and in SAE/USCAR-17.

2. REFERENCES

SAE/USCAR-2 Performance Specification for Automotive Electrical Connector Systems

SAE/USCAR-17 Performance Specification for Automotive RF Connector Systems

The performance specs can be obtained from the following location:

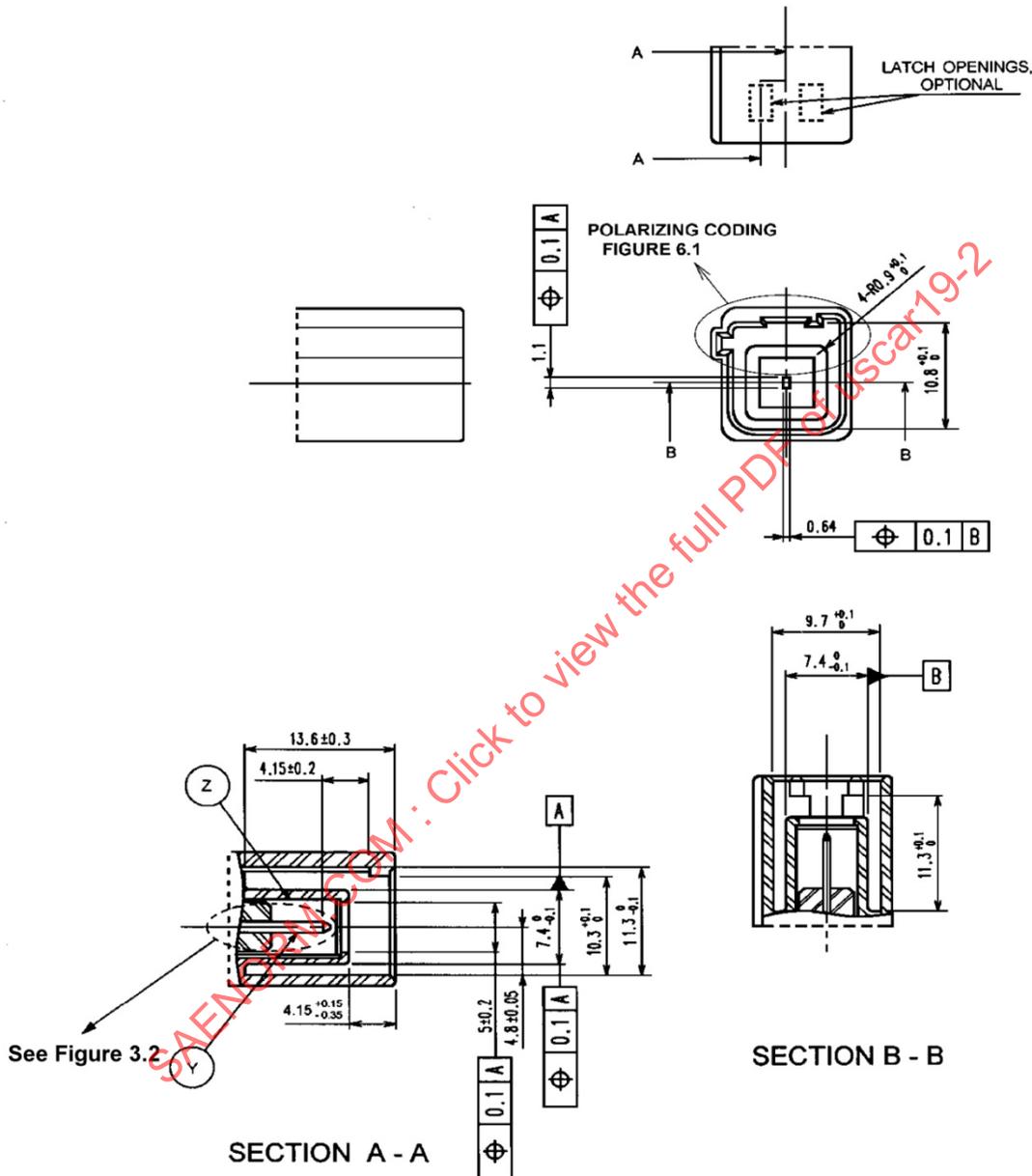
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RAL RAL color charts are available from:
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Telefax 0 22 41 - 16 05-16
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3. DIMENSIONS OF THE INTERFACE (RECEPTACLE, SINGLE CONDUCTOR)

3.1 Receptacle Basic Dimensions



- Notes: 1. Provide locator/retention clip feature on receptacle (not depicted).
 2. Terminal retention features are not depicted.

FIGURE 3.1: Receptacle Basic Dimensions

3.2 Contact Dimensioning and Material/Plating Requirements

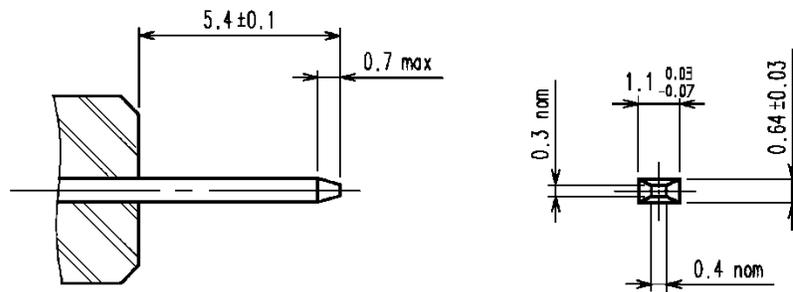


FIGURE 3.2: Male Terminal Dimensioning Requirements

Identification	Description	BASE MATERIAL AND PLATING OF CONDUCTORS
Y	Contact - center	Cu alloy with electrical conductivity $\geq 15\%$ IACS Plating : $\geq 1\mu\text{m}$ SnPb over $0.5\mu\text{m}$ Ni
Z	Contact - outer	Cu alloy with electrical conductivity $\geq 15\%$ IACS Plating : $\geq 1\mu\text{m}$ SnPb over $0.5\mu\text{m}$ Ni

TABLE 3.2: Contact Material and Plating

4. REFERENCE DIMENSIONS OF THE PLUG

USCAR/EWCAP does not specify dimensions of the plug. The dimensions shown in Figure 4.1 are for reference only.

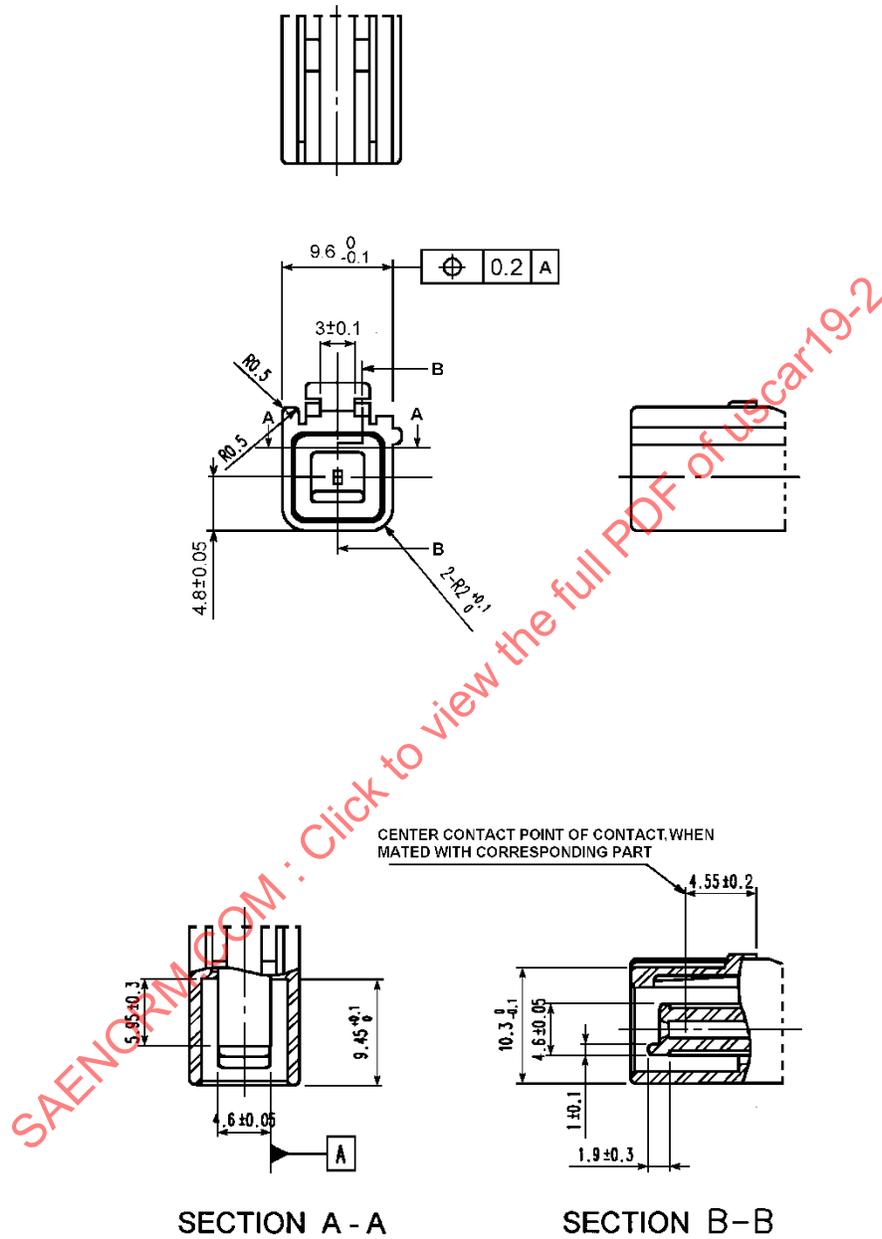


FIGURE 4.1: Reference Dimensions of the Plug

5. MULTI-CONDUCTOR DIMENSIONS

Reference Sections 3 and 4 for additional pertinent dimensions. Cavities are numbered from left to right in Figures 5.1 and 5.2.

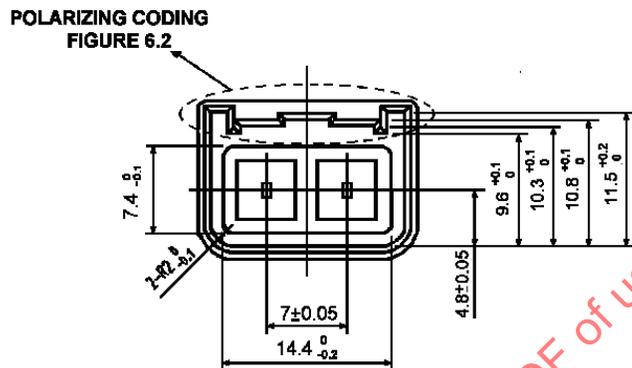


FIGURE 5.1: 2 Contact – Receptacle Basic Dimensions

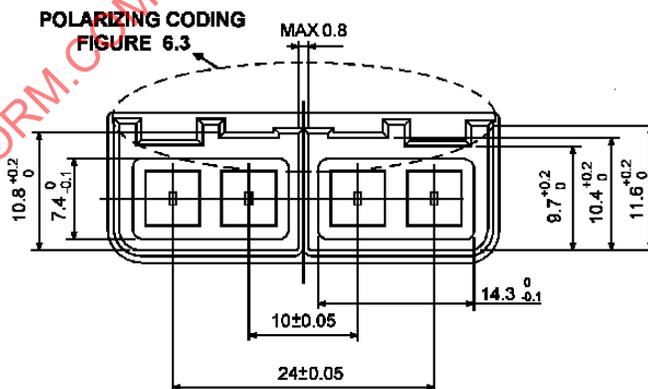


FIGURE 5.2: 4 Contact – Receptacle Basic Dimensions

6. CODING

6.1 Single Contact

RECEPTACLE SINGLE CONTACT

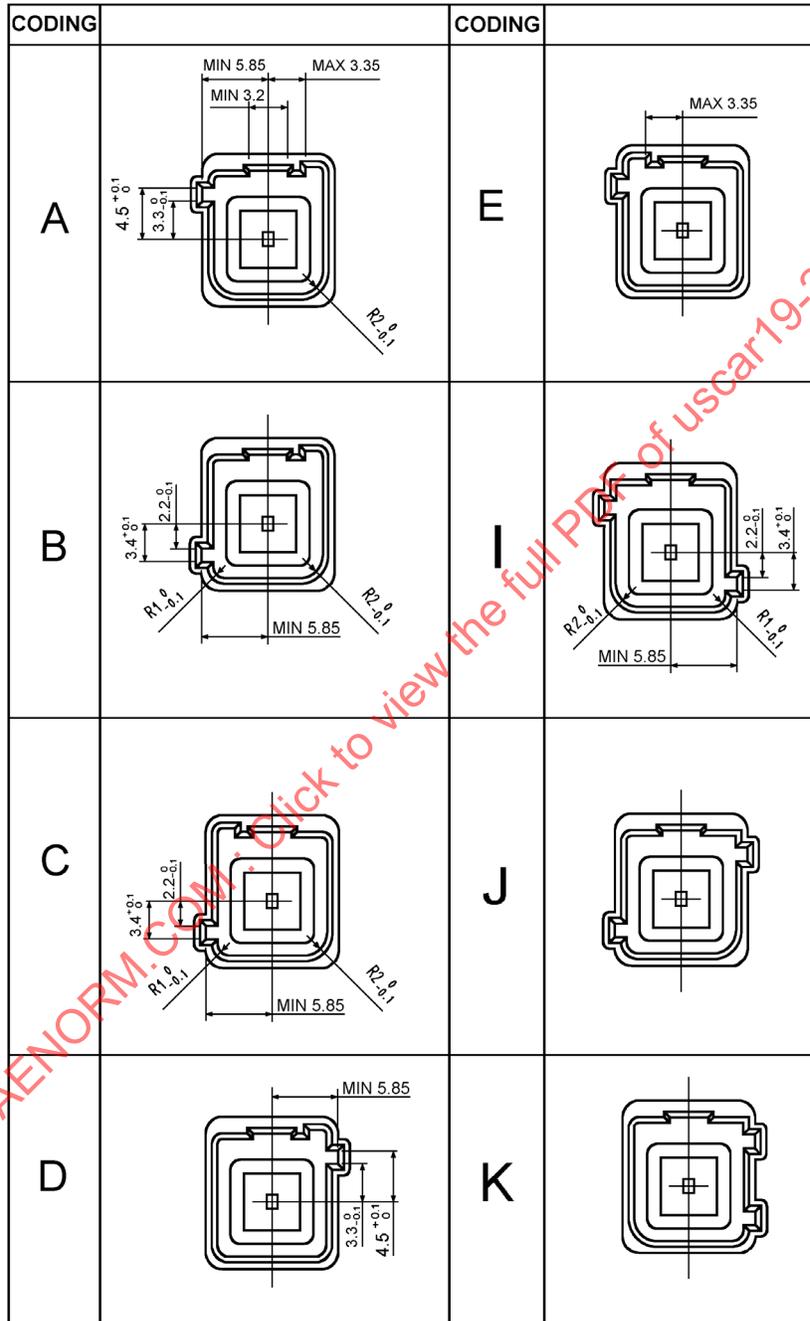


FIGURE 6.1: Single Contact Dimensioning Requirements

Coding	Color	RAL #	Applications
A	Nut Brown	8011	TV ¹
B	Leaf Green	6002	TV ²
C	Signal Blue	5005	GPS
D	Claret Violet	4004	Cellular Phone
E	Heather Violet	4003	GPS Navigation only
I	Jet Black	9005	AM/FM
J	Cream White	9001	AM/FM ³
K	Pastel Orange	2003	RKE/TPMS ⁴

TABLE 6.1: Single Contact – Polarization, Color, and Usage

1 – VHF where defined by receiver

2 – UHF where defined by receiver

3 – AM/FM diversity radio (second AM/FM antenna)

4 – Remote Keyless Entry/Tire Pressure Monitoring System

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6.2 Two Contacts

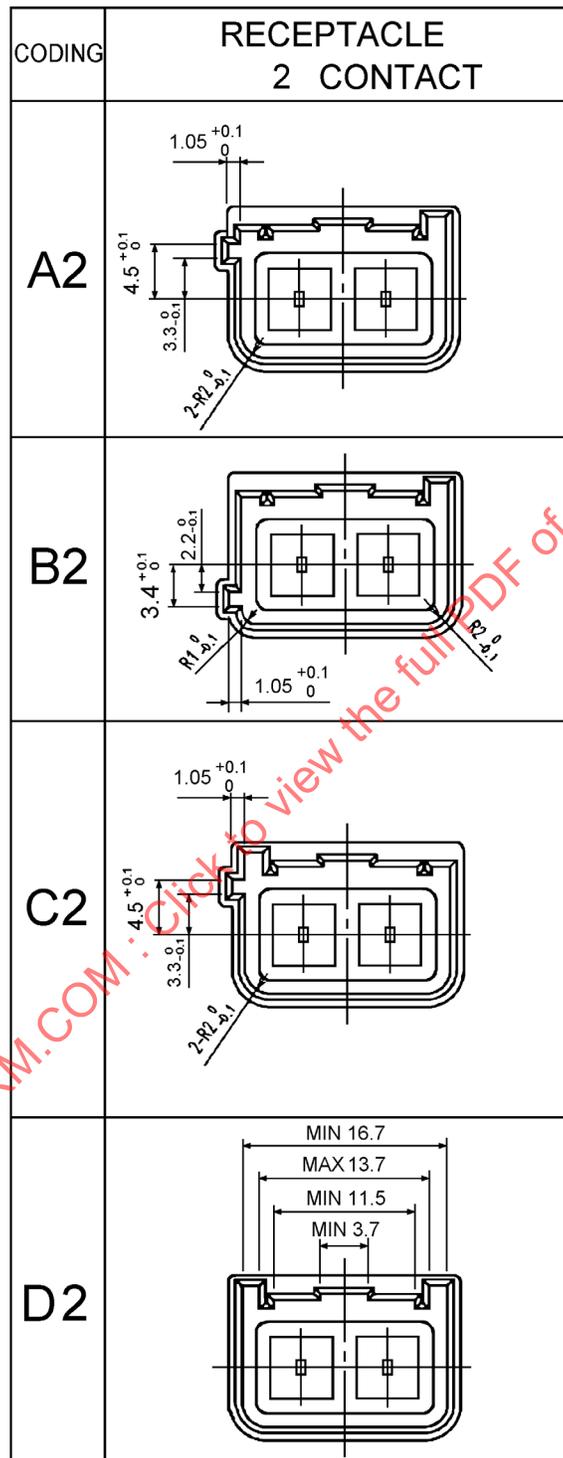


FIGURE 6.2: Two Contact Dimensioning Requirements